

ABSTRACT

The present invention relates to a package of screening methods for developing drugs against pathogenic microbes having two-component system of DevR-DevS and/or DevR-Rv2027c and its homologues, said method comprising steps of over-expressing DevR, DevS, and Rv2027c and their single domain derivatives including mutant variant proteins, autophosphorylating DevS, and Rv2027c proteins and thereafter, phosphotransferring to DevR and its derivatives in SDS-PAGE or High-throughput format in the presence of a test compound, and determining the drug-potential of the test compound, wherein the potential of the drug is inversely proportional to (i) the degree of autophosphorylation of DevS and Rv2027c, (ii). the degree of phosphotransfer-based dephosphorylation of DevR and /its single domain derivative, and (iii). the degree of dephosphorylation of phosphorylated species of DevS and Rv2027c and /their single domain derivatives, and a method of treatment, and a composition thereof.